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## EUROPEAN PATENT APPLICATION

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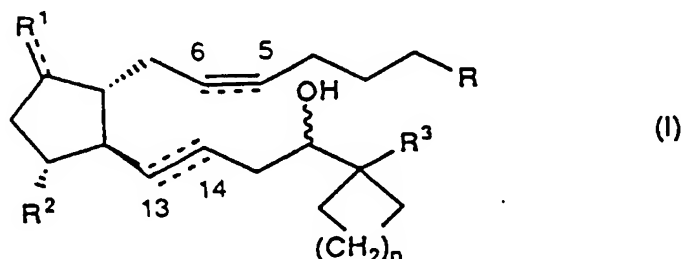
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(54) Omega-cycloalkyl-prostaglandin E<sub>2</sub> derivatives

(57)  $\omega$ -Cycloalkyl-prostaglandin E<sub>2</sub> derivatives of formula (I)



wherein R is carboxy or hydroxymethyl; R<sup>1</sup> is oxo, methylene or halogen atom; R<sup>2</sup> is H, OH or C1-4 alkoxy; R<sup>3</sup> is H, C1-8 alkyl, C2-8 alkenyl, C2-8 alkynyl, C1-8 alkyl, C2-8 alkenyl or C2-8 alkynyl substituted by 1-3 substituents selected from halogen atom, C1-4 alkoxy, C3-7 cycloalkyl, phenyl, and phenyl substituted by 1-3 substituents selected from halogen atom, C1-4 alkyl, C1-4 alkoxy, nitro and trifluoromethyl; n is 0-4;

and non-toxic salts thereof, prodrugs thereof and cyclodextrin clathrates thereof strongly bind on the EP<sub>2</sub> subtype receptor. Therefore, they are useful for prevention and/or treatment of immunological diseases (autoimmune diseases, organ transplantation, etc.), asthma, abnormal bone formation, neuronal cell death, liver damage, abortion, premature birth or retina neuropathy of glaucoma etc.

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# EUROPEAN SEARCH REPORT

Application Number  
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X	US 4 363 817 A (BIDDLECOM WILLIAM G) 14 December 1982	4,9,12, 16-22	
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			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			C07C
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>4 May 1999</b>	Examiner <b>Berte, M</b>
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technological background  O : non-written disclosure  P : intermediate document</p> <p>T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  &amp; : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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EP 98 30 0769

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